

VOROB'YEV, Nikolay Nikolayevich; KOPYLOVA, A.N., red.; AKSEL'ROD,
I.Sh., tekhn. red.

[Divisibility tests] Priznaki delimosti. Moskva, Fizmatgiz,
1963. 70 p. (Populiarnye lektsii po matematike, no.39)
(MIRA 17:2)

VOROB'YEV, N. M., Dr. Phys-Math Sci — (diss) "Randomized common actions
in end plays," Leningrad, 1960, 13 pp, 260 cop. (Mathematics Institute im
V. A. Steklov, Department of Applied Mathematics. AS USSR) (KL, 42-60, 110)

VOROB'YEV, N.M.

ABRAMOV, S.A., inzhener; ~~VOROB'YEV, N.M.~~, inzhener; GLAGOLEV, N.M., doktor
tekhnicheskikh nauk, professor; MERLIS, P.M., inzhener; MARGULIS,
P.S., kandidat tekhnicheskikh nauk; RISKIN, I.V., inzhener;
FUFRYAISKIY, N.A., doktor tekhnicheskikh nauk, professor

Selecting types of diesels for projected diesel locomotives. Vest.
TSNII MPS 16 no.2:11-18 Mr '57. (MIRA 10:4)
(Diesel locomotives)

VOROB'YEV, N.N.

[Fibonacci's numbers] Chisla Fibonachchi. Moskva, Gos. izd-vo
tekhniko-teoret.lit-ry, 1951. 46 p. (Populiarnye lektsii po ra-
tematike, no.6) (MTRA 14:11)
(Numbers, Theory of) (Fibonacci, Leonardo, fl.1220)

VOROB'YEV, N. N.

VOROB'YEV, N. N. -- "Constructive Calculus (Logic) of Propositions With Strong Negation." Sub 24 Apr 52, Mathematics Inst imeni V. A. Steklov, Acad Sci USSR. (Dissertation for the Degree of Candidate in Physico-mathematical Sciences).

SO: Vechernaya Moskva January-December 1952

USSR/Mathematics - Modern Algebra, 11 Apr 52
Associative Systems

"Ideals of Associative Systems," N. N. Vorob'yev

"Dokl. Akad. SSSR" Vol. LXXXIII, No. 5, pp 641-643

As usual a set with one single-valued binary associative operation ("multiplication") is called an associative system. The subset T of system G is called its left ideal if GT is in T , and right ideal if TG is in T . The purpose of the current article is to expound certain results to L-systems (L-systems are so-called main left ideals; that is,

216753

USSR/Mathematics - Modern Algebra 11 Apr 52
Associative Systems (Contd)

sets of the form $GX \cup X$ for a certain X in G). States that L-systems with unity cannot possess any augmentative elements. Submitted by Acad V. I. Smirnov 4 Feb 52.

216753

VOROB'YEV, N. N.

235T66

USSR/Mathematics - Symbolic Logic
Propositional Calculus

21 Jul 52

"The Constructive Calculus of Propositions With
Strong Negation," N. N. Vorob'yev

"Dok Ak Nauk SSSR" Vol 85, No 3, pp 465-468

Considers certain properties of the propositional
calculus with strong (constructive) negation, as
defined by the usual axioms consisting of 21 tau-
tological forms (e.g., $P \supset (Q \supset P)$, etc.) and by the
usual schema of inference. In particular, considers
strongly equiv formulas, namely, where both $P \equiv Q$ and
 $\neg P \equiv \neg Q$ hold true simultaneously (designated by $P \equiv Q$).
Submitted by Acad V. I. Smirnov 12 May 52.

235T66

VOROB'YEV, N. N.

USSR/Mathematics - Symbolic Logic 1 Aug 52

"The Problem of Inferibility in the Constructive
Calculus of Propositions With Strong Negation,"
N.N. Vorob'yev

"Dok Ak Nauk SSSR" Vol 85, No 4, pp 689-692

In a previous report ("Dok Ak Nauk SSSR" Vol 85,
No 3, 1952) the author derives several theorems
concerning the constructive calculus of propo-
sitions with strong negation. In the current report
the author gives an algorithm which permits one to
develop formulas inferible in this calculus and
thus to distinguish them from noninferible
formulas. Submitted by Acad V.I. Smirnov
12 May 52.

22/TU55

Mathematical Reviews
Vol. 14 No. 8
Sept. 1953
Algebra

8-10-54
LL

Vorob'ev, N. N. Associative systems of which every subsystem has a unity. Doklady Akad. Nauk SSSR (N.S.) 88, 393-396 (1953). (Russian)

The author considers associative systems (i.e., semigroups) \mathcal{G} such that every subsystem (i.e., subsemigroup) of \mathcal{G} contains a unity (two-sided identity element). He shows that a system \mathcal{G} has this property if and only if (1) \mathcal{G} is the class sum of mutually disjoint groups in each of which every element has finite order, and (2) the set of idempotent elements of \mathcal{G} is well-ordered by the division relation (E_1 divides E_2 if $E_1 E_2 = E_2 E_1 = E_1$). From this and a theorem of the reviewer [Ann. of Math. (2) 42, 1037-1049 (1941); these Rev. 3, 199] it follows that the structure of such a system \mathcal{G} can be described explicitly [the semi-lattice P in the reviewer's Theorem 3 being in this case a well-ordered set]. This enables the author to describe the ideals and automorphisms of \mathcal{G} . A system \mathcal{G} in which every finitely generated subsystem of \mathcal{G} contains a unity is similarly characterized, the only change being to substitute "(totally) ordered" for "well-ordered" in (2). A. H. Clifford.

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"APPROVED FOR RELEASE: 03/14/2001

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APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860820015-0"

VOROB'YEV, N.N.

Controlled processes and the theory of games. Vest.Len.un. 10
no.11:49 N '55. (MIRA 9:3)
(Games, Theory of)

124-11-13019

Translation from: Referativnyy Zhurnal, Mekhanika, 1957, Nr. 11, p. 103 (USSR)

AUTHOR: Vorobyev, N. N.

TITLE: Flexure and Torsion of a Plane, Curved Beam of Small Curvature and with an Arbitrary Cross-Section. (Izgib ploskogo krivogo brusa maloy krivizny s proizvol'nym poperechnym secheniyem)

PERIODICAL: Nauch. tr. Novocherkassk. politekh. in-ta. , 1955, Vol 29 (43)pp 65-78

ABSTRACT: Calculation of beams having a small degree of curvature along a circular axis and a cross-section arbitrarily oriented with respect to the plane of curvature of the beam. External forces are assumed to be directed in an arbitrary manner, either as distributed loads or as concentrated forces. The case of a section oriented symmetrically relative to the plane of curvature is obtained as a special case from the general formulas. Castigliano's theorem is employed in the establishment of the fundamental differential equations. Six basic parameters, entering into the expressions of the internal forces and moments acting in any given section of the beam, are determined in each specific case from the boundary conditions. For a closed ring general formulas are set up to express these parameters in terms of

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Novocherkassk Polytech. Inst, Chair Theoretical Mechanics

124-11-13019

Flexure and Torsion of a Plane, Curved Beam of Small Curvature and with an Arbitrary Cross-Section (continued).

the external loads. Unfortunately, the Author does not adduce any examples to show how much more complicated a practical calculation becomes in the general case as compared to the solution of a beam having a symmetrical cross-section relative to the plane of curvature,
(N. L. Kuz'min)

Card 2/2

VORON'YEV, N.N.

Theory of ideals of associative systems. Uch.zap.Ped.inst. Gerts.
103:31-73 '55. (MLRA 10:3)
(Groups, Theory of)

VOROB'YEV, N. N.

Translation from: Referativnyy Zhurnal, Matematika, 1957, Nr 1, p. 21 (USSR) 44-1-161

AUTHOR: Vorob'yev, N. N.

TITLE: On the Canonic Representations of Elements of Symmetrical Association Systems (O kanonicheskikh predstavleniyakh elementov simmetricheskikh assotsiativnykh sistem)

PERIODICAL: Uch. zap. Leningr. gos. ped. in-ta, 1955, 103, pp. 75-82.

ABSTRACT: Let M be an arbitrary set. Semigroup C of all such mappings p (almost analogous substitutions) of the set M into itself; for which $M \cdot pM$ is a finite set, is examined. The number of elements of this set is called the defect of an almost identical substitution p . Let A be a subset of semigroup C , consisting of all transpositions and of one arbitrary fixed, almost identical substitution with a unit defect. Among different finite compositions of elements of set A , some special canonic compositions are of importance; it is proved that any element of semigroup C can be represented as one of these canonic compositions.

Ye. S. Lyapin

Card 1/1

VOROB'YEV, N.N.

Associative systems, any left ideal of which contains a unit element 1.
Uch.zap.Ped. inst. Gerts. 103:83-90 '55. (MIRA 10:3)
(Groups, Theory of)

HALD, Anders, 1913- ; VOROB'YEV, N.N. [translator]; PETROV, V.V. [translator];
KHUSU, A.P. [translator]; LINNIK, Yu.V., redaktor

[Statistical theory with engineering applications. Translated from
the English] Matematicheskaya statistika s tekhnicheskimi prilozhe-
niami. Perevod s angliiskogo N.N. Vorob'eva, V.V. Petrova i A.P.
Khusu. Pod red. I.U.V. Linnika. Moskva, Izd-vo inostrannoi lit-ry,
1956. 664 p. (MIRA 10:3)
(Mathematical statistics)

AUTHOR:

Vorob'yev, N. N.
VOROB'YEV, N. N.

20-5-1/54

TITLE:

Reduced Strategies for Games in a Generalized Form (Redutsirovannyye strategii dlya igr v obobshchennoy forme)

PERIODICAL:

Doklady Akad.Nauk SSSR., 1957, Vol.115, Nr.5, pp.855-857 (USSR)

ABSTRACT:

The present paper is a generalization of some results of Kuhn [Ref 1].

Let v_U denote an arbitrary alternative of the amount of information U . If in U the i -th player moves, then $\mathcal{L}_i(U)$ denotes the family of all amounts of information V for which a) $V \in \mathcal{U}_i$; b) $V < U$; c) there exists no v_V for which $U \subset D(V, v_V)$. If X is a position and $U < X$, then let $v_U^{(X)}$ be an alternative of U such that $X \in D(U, v_U^{(X)})$.

Theorem: Let X and V be positions for play being contained in U , let π_i be the strategy of the i -th player for which $X \in \text{Poss } \pi_i$.

Then there exists a strategy of the i -th player π_i^* such that it is identical with π_i on all amounts of information of

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$\mathcal{U}_i \setminus \mathcal{L}_i(U)$ and that for it $Y \in \text{Poss } \pi_i^*$.

Reduced Strategies for Games in a Generalized Form

20-5-1/54

Let X be a position. Let $Q_i^*(x)$ be the family of all amounts of information of \mathcal{U}_i which precede X . Let $\mathcal{W} \in \mathcal{U}_i$. Let $X \in \text{Poss } \pi_i$ if for every $U \in \mathcal{W}$ there holds the relation $\pi_i(U) = v_U^{(x)}$.

Theorem: Let $X \in U \in \mathcal{U}_i$ and $X \prec Z$. Let Y be the position nearest to X which follows X and precedes Z . Let V be the amount of information in which Y is contained. In order that

$$U \in \text{Rel } \pi_i, \quad \pi_i(U) = v_U^{(z)}, \quad x \in \text{Poss } \pi_i \cap Q_i^*(x) \cap \mathcal{L}_i(U)$$

holds for an arbitrary π_i it is necessary and sufficient that

$$V \in \text{Rel } \pi_i, \quad Y \in \text{Poss } \pi_i \cap Q_i^*(Y) \cap \mathcal{L}_i(V)$$

Let the i -th player in the game Γ have an ordering memory if for arbitrary amounts of information U and V of \mathcal{U}_i of $V < U$ there always follows $U \subset D(V)$.

Theorem: If in the game Γ the i -th player has an ordering memory,

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Reduced Strategies for Games in a Generalized Form

20-5-1/54

then every mixed strategy of this player is equivalent to the reduced strategy corresponding to it.

PRESENTED: By A. N. Kolmogorov, Academician, March 5, 1957.

SUBMITTED: January 9, 1957

AVAILABLE: Library of Congress

Card 3/3

VOROB'YEV N.N.

16(1)

p.4

PHASE I BOOK EXPLOITATION

SOV/1707

Akademiya nauk SSSR. Matematicheskiy institut

Problemy konstruktivnogo napravleniya v matematike; sbornik rabot, vyp. 1 (Problems Connected With the Construction Trend in Mathematics; Collection of Articles, Nr 1) Moscow, Izd-vo AN SSSR, 1958. 348 p. (Series: Its: Trudy, t. 52). 2,500 copies printed.

Ed.: N.A. Shanin; Resp.. Ed.: I.G. Petrovskiy, Academician; Deputy Resp. Ed.: S.M. Nikol'skiy, Professor; Tech. Ed.: R.A. Arons.

PURPOSE: This book is intended for mathematicians.

COVERAGE: The book is a collection of works presented at the seminar on mathematical logic of the Leningrad Branch of the Matematicheskiy institut imeni V.A. Steklova (Mathematical Institute imeni V.A. Steklov) of the Academy of Sciences, USSR. The articles deal primarily with problems connected with the constructive trend in mathematics. A detailed study is made of the theory of algorithms and constructive mathematical logic. The book is divided into

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Problems Connected With the Construction (Cont.)

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three main parts: I. The General Theory of Algorithms and Its Application to the Theory of Associative Calculations. II. Constructive Mathematical Logic. III. Constructive Mathematical Analysis.

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Nagornyy, N.M. On the Minimum Alphabet of Algorithms Over a Given Alphabet

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Problems Connected With the Construction (Cont.)

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Detlovs, V.K. The Equivalence of Normal Algorithms and Recursive Functions

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Orlovskiy, E.S. Certain Problems of the Theory of Algorithms

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Introduction I. Construction of normal algorithms inverse to a given algorithm 1. Formulation of provable theorems 2. Construction of unknown algorithms 3. Proof of theorem 2 II. Construction of a universal algorithm system 4. A universal algorithm system 5. Fundamental lemmas 6. Proof of fundamental lemmas. References

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Problems Connected With the Construction (Cont.)

SOV/1707

Tseytin, G.S. Associative Calculation With the Unsolvable Problem
of Equivalence

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PART II. CONSTRUCTIVE MATHEMATICAL LOGIC

Vorob'yev, N.N. A New Algorithm of Deducibility in Constructive
Proposition Calculus

193

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formulas 3. Deduction of conclusions 4. Properties of deduc-
tions of conclusions 5. The connection between deducible for-
mulas and deducible conclusions 6. Deducibility algorithm for
normal conclusions 7. Examples.. References

Shanin, N.A. On the Constructive Meaning of Mathematical
Reasoning

226

1. Constructive mathematical objects 2. Historical informa-
tion. Critique of S.C. Kleene's theory 3. Fundamental logico-
mathematical languages 4. Algorithms of the behavior of a con-
structive problem 5. An algorithm for deciphering elementary
formulas 6. On the meaning of supporting formulas 7. Some in-
formation from the constructive theory of sets 8. Certain ex-
tensions of fundamental logicomathematical languages

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Problems Connected With the Construction (Cont.)

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PART III. CONSTRUCTIVE MATHEMATICAL ANALYSIS

Markov, A.A. On Constructive Functions

315

Introduction 1. Recursive functions with rational values
2. Regularly converging sequences 3. Constructive real
numbers 4. Constructive sequences of real numbers 5. Con-
structive functions of a real variable. References

AVAILABLE: Library of Congress

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LK/ad
6-15-59

SOV/52-3-3-4/8

AUTHOR: Vorob'yev, N. N.

TITLE: Equilibrium Points in Bimatrix Games (Situatsii ravnovesiya v bimatricnykh igrakh)

PERIODICAL: Teoriya veroyatnostey i yeye: primeneniya, 1958, Vol 3, Nr 3, pp 318-331 (USSR)

ABSTRACT: An algorithm for computing all equilibrium points (situations) for the case of the bimatrix (i.e. the finite 2-person, non-cooperative, non-zero-point sum) games (Γ) is described. The problem of such a game can be represented as a combination of 2 matrices A and B, both of the same form:

$$A = \|a_{ij}\|, B = \|b_{ij}\| \quad (i = 1, \dots, m; j = 1, \dots, n).$$

The following notations are used: M_i - i-row of the matrix M, M_j - j-column, M^T - transformation into M matrix, M_+ - the matrix obtained from the matrix M by adding to the right side a column M_0 , composed of units, J_m - m-vector with unit components, O_m - m-vector with zero components, E_m - unit matrix of m order. "Pure

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SOV/52-3-3-4/8

Equilibrium Points in Bimatrix Games

"strategy" of first order - i rows of matrix A and B (j columns - 2nd order), (i, j) - situations in pure strategy, a_{ij} , b_{ij} - success of the first or 2nd order in the situation (i, j) respectively. S_k - population of k k -vectors: $Z = (z_1 \dots z_k)$, $z_p \geq 0$, ($p = 1, \dots, k$) and $\sum_{p=1}^k z_p = 1$.

"Strategy of first player" - every m -vector $X = (x_1, \dots, x_m) \in S_m$ (2nd player - n -vector $Y = (y_1, \dots, y_n) \in S_n$). Situation of game Γ - pair of vectors (X, Y) , where $X \in S_m$, $Y \in S_n$. Success in the situation (X, Y) - XAY^T (1st player), XBY^T (2nd player). Situation in equilibrium - situation (X, Y) when $XAY^T \geq X^*AY^T$, $XBY^T \geq XBY^{*T}$ for any strategy X^* or Y^* of the 1st or 2nd player. G_Γ - population of all the strategies. For $(X, Y) \in G_\Gamma$:

$$XAY^T \geq A_i Y^T \quad (i = 1, \dots, m),$$

$$XBY^T \geq XB_j \quad (j = 1, \dots, n)$$

is required. The

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SOV/52-3-3-4/8

Equilibrium Points in Bimatrix Games

strategy X of the 1st player is in equilibrium when $(X, Y) \in G$. It can be stated that the population $G(X)$ and $G(Y)$ of the strategies in equilibrium of the 1st (X) and 2nd (Y) players is non-void, convex, closed and limited (Lemma, para 4). Or, if η is a population of the strategies in equilibrium of the 2nd order, the population $G(\eta) = \bigcap_{Y \in \eta} G(Y)$ is convex, closed and limited (Ref.3). If

$R = (R_1 \dots R_k)$ - the population of situations in equilibrium of the 1st order strategy, i.e. $R_k = (X, Y_k)$ ($k = 1, \dots, k$) and $R = \{X, Y_1\}, \dots, \{X, Y_k\} \subset G$, then, in order that

$$\forall k \left(\bigcap_{n=1}^k G(i_n) \right) \quad (7)$$

it is necessary that R - permissible, sub-matrix D of the

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Equilibrium Points in Bimatrix Games

matrix B , and the matrix D_+ contain the linear independent rows (Theorem 6). When the strategy in equilibrium X and the 1st player is defined as extreme, i.e. the population of strategies $Y_1 \dots Y_k$ of the 2nd player satisfies Eq.(21), then each player has a finite number of extreme strategies (Theorem, p 323). All the extreme strategies of the first player of the types $X(D^*)$ and $X(D^*, \lambda)$ can be found. For this purpose every matrix D^* of the matrix B is listed and the vector $X(D^*)$ (Eq.49) and the population $X(D^*, \lambda)$ for the 1st and 2nd types of matrices are determined respectively. Then the extreme strategies of the 1st player \tilde{X} can be found from the strategies (49), (50) and (51). The strategies of the 2nd player \tilde{Y} are found in a similar way. Both populations \tilde{X} and \tilde{Y} are non-void and the game Γ has at least one situation in equilibrium (X, Y) . Therefore, the populations $\mathcal{G}(X)$, $\mathcal{G}(Y)$, $K(\mathcal{G}(X))$ and $K(\mathcal{G}(Y))$ are non-void but $K(\mathcal{G}(X)) \subset \tilde{Y}$ and $K(\mathcal{G}(Y)) \subset \tilde{X}$. Therefore,

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Equilibrium Points in Bimatrix Games

$$G_r = \bigcup_{X \in \tilde{X}} [X] \times G(X) \quad (\text{Theorem 9}).$$

The population $G(X)$ for any $X \in \tilde{X}$ can be determined as the population $K(G(X))$ is non-void. There at least one strategy $Y \in \tilde{Y}$ for which $(X, Y) \in G_r$ at all $X \in \tilde{X}$. It means that in order to determine all the strategies for $G(X)$ it is sufficient that the expressions (52) and (53) are satisfied even for one $Y \in \tilde{Y}$. If \tilde{Y} is the population of these Y for which the expressions (49), (50) for $X \in \tilde{X}$ are satisfied, then

$$K(G(X)) \subset \tilde{Y} \subset G(X) \quad .$$

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Equilibrium Points in Bimatrix Games

As the population $K(G(X))$ is finite, then

$G(X) = [K(G(X))]$, thus it can be considered as fully representing the population $G(X)$. There are 3 English references.

SUBMITTED: March 12, 1958.

Card 6/6

VOROB'YEV, N. N. (Leningrad)

"The Adjustment of Families of Measures and Stamp Measures."

paper to be submitted for the Second Prague Conference on Information Theory, Statistical Decision Functions, and Random Processes - Liblice (near Prague), CSR, 1-6 June 1959

16(1)

AUTHOR: Vorob'yev, N.N.

SOV/42-14-4-2/27

TITLE: Finite Games Without Coalition

PERIODICAL: Uspekhi matematicheskikh nauk, 1959, Vol 14, Nr 4, pp 21-56 (USSR)

ABSTRACT: Games in which the player can not count upon the assistance of the partners during the game are called games without coalition.
The author gives the sketch of a closed theory of finite games without coalition. § 1. Situation of equilibrium. § 2. Matrix games. § 3. The game in extensive form. The three paragraphs are subdivided into 16 parts. There are no new results. There are 2 figures, and 36 references, 3 of which are Soviet, 20 American, 8 French, 1 German, 1 Hungarian, and 3 English.

SUBMITTED: January 26, 1959

Card 1/1

16(1), 16(2)

AUTHORS: Vorob'yev, N.N., and Romanovskiy, I.V.

SOV/43-59-7-6/17

TITLE: Games With Prohibited Situations (Iгры s zapreshchennymi situatsiyami)

PERIODICAL: Vestnik Leningradskogo universiteta, Seriya matematiki, mekhaniki i astronomii, 1959, Nr 7(2), pp 50-54 (USSR)

ABSTRACT: The authors consider games with prohibited situations. It is stated that if such a game has more than one value, then the game always has to be repeated with the probability 1. A necessary but not sufficient criterion for the existence of several values is proposed. The results overlap with those of [Ref 3].

There are 3 American references.

SUBMITTED: December 3, 1958

Card 1/1

VOROB'YEV, N.N.

Coalition games. Dokl. AN SSSR 124 no.2:253-256 Ja '59.
(MIRA 12:1)

1. Predstavleno akademikom V.I. Smirnovym.
(Games of strategy (Mathematics))

VOROB'YEV, N.N.

[Randomized joint actions in finite games; author's abstract of his dissertation presented in candidacy for the degree of Doctor of Physics and Mathematics] Randomizirovannye sovmestnye deistviia v konechnykh igrakh; avtoreferat dissertatsii na soiskanie uchenoi stepeni doktora fiziko-matematicheskikh nauk. Leningrad, Akad. nauk SSSR, 1960. 12 p. (MIRA 15:2)

(Games, Theory of)

VOROB'YEV, N. N.

PLANE I BOX INFORMATION 807/1991
Sovetskichlye po teorii veroyatnostey i matematicheskoy statistike, Yareva, 1958
Trudy Vsesoyuznogo sovetskikh po teorii veroyatnostey i matematicheskoy
statistike, Yareva, 1958, vol. 4. (All-Union Conference on the
Theory of Probability and Mathematical Statistics. Held in Yareva 19-25
September, 1958. Transactions) Yareva: Izd-vo AN SSSR, 1960. 251 p.
Errata slip inserted. \$,500 copies printed.

Sponsoring Agency: Akademiya nauk Armyanskoy SSR.
Editorial Staff: G.A. Akhmatyanov, B.Y. Gnedzhe, Ye.B. Dykin, Ye.Y. Izmalk and
S. Zh. Tsamanyan; Ed. of Publishing House: A.D. Sibat; Tech. Edit. Akh. Akhmatyanov.

PREFACE: The book is intended for mathematicians.
CONTENTS: The book contains 41 articles submitted to the Conference and dealing with
the theory of probability and mathematical statistics. Some of the articles are
the papers read at the Conference and edited for publication, while others contain
the theses of papers which appeared or are scheduled to appear, wholly or in
part, in other publications; in some cases, such publications are quoted. A
list of the papers whose contents are included in the book is included and the
names of the authors are indicated. Individual articles contain theories of
mass service, operations research, numbers, games, and certain theories, and
discuss the theory of branching processes, Markov's chains, and certain processes, games,
titles, and problems. Such items as the method of least squares, the stochastic
theory of branching processes, measures and their applications, a scheme of
Markov's experiments, Markov-type random cells, visible distributions of state,
Brownian motion, capacity of radio channels, and defective products are also
included. No personalities are mentioned. References accompany some of the
articles.

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Korshakov, B.K. and I.M. Zhukovskiy. Some Problems in the Theory of Position Games. (Theses)	51
Shchegolev, B.K. Limit Theorem for Large Deviations in the Theory of Heterogeneous Markov's Chains	54
Richner, Wolfgang. Local Limit Theorem for Probabilities of Large Deviations. Necessity of Cramer's Condition	55
Plavitskiy, B.G. On Constructive Proof of the Basic Theorem's Theorem for a Simple Binary Case. (Theses)	66
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Shchegolev, A.V. Random Measures and Their Applications in the Theory of Stochastic Processes and Statistics. (Theses)	75
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Shchegolev, B.K. On Evaluation of a Distribution Function Based on the Realization of a Stationary Process	86
Gilman, B.Ye. On the Problem of a Random Walk. (Theses)	94

VOROB'YEV, H.N. (Leningrad)

Disjoint strategies. Teor. veroiat. i ee prim. 5 no. 4:457-
459 '60. (MIRA 13:12)

(Games of strategy (Mathematics))

VOROB'YEV, N.N.; FADDAEV, D.K. (Leningrad)

Continualization of conditional probabilities. Teor. veroiat. i
ee prim. 6 no.1:116-118 '61. (MIRA 14:6)
(Probabilities)

34777

S/052/61/006/004/002/005
C111/C222

16.6100

AUTHOR: Vorob'yev, N.N.

TITLE: An analytic characterization of independence and Markov type dependence

PERIODICAL: Teoriya veroyatnostey i yeye primeneniye, v.6, no. 4, 1961, 422-426

TEXT: Under an n-trial ($n \geq 2$) is understood a representation of a certain event as a union of n pairwise incompatible events. A function ψ_1 is called a one-dimensional distribution function if

$$\psi_1(x) = \begin{cases} 0 & \text{for } x < 0, \\ x & \text{for } 0 \leq x \leq 1, \\ 1 & \text{for } 1 < x. \end{cases} \quad (1)$$

A continuous function ψ of n variables is called an n-dimensional distribution function if ψ is the distribution function of such a variable (X_1, \dots, X_n) for which

$$P\left(\bigcap_{i=1}^n (0 \leq X_i \leq 1)\right) = 1 \quad (2)$$

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An analytic characterization of ...

holds, and if, in addition, for arbitrary $i = 1, \dots, n$ and $0 \leq x_i \leq 1$ the sum

$$\psi(x_1, \dots, x_{i-1}, x_i, x_{i+1}, \dots, x_n) + \psi(x_1, \dots, x_{i-1}, 1-x_i, x_{i+1}, \dots, x_n)$$

is a certain $(n-1)$ -dimensional typical distribution function of variables $x_1, \dots, x_{i-1}, x_{i+1}, \dots, x_n$. The function $\varphi = \varphi(x_1, \dots, x_n)$ is called an (m_1, m_2, \dots, m_n) - type of dependence, if for arbitrary m_i - trials $\mathcal{O}^{(i)}_2$ ($i = 1, \dots, n$) with the outcomes $A^{(1)}_1, \dots, A^{(1)}_{m_1}$

there exists such a $m_1 \dots m_n$ - trial \mathcal{O} with the outcomes

$$A^{(1)}_{j_1} \cap A^{(2)}_{j_2} \cap \dots \cap A^{(n)}_{j_n} \quad (i \leq j_i \leq m_i ; i = 1, \dots, n)$$

that for all possible j_1, \dots, j_n

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An analytic characterization of ...

S/052/61/006/004/002/005
C111/C222

(3)

$$P_{\alpha}(\Delta_{j_1}^{(1)} \cap \dots \cap \Delta_{j_n}^{(n)}) = \varphi(P_{\alpha(1)}(\Delta_{j_1}^{(1)}), \dots, P_{\alpha(n)}(\Delta_{j_n}^{(n)}))$$

holds.

The following theorem is proven: Let (1) $m_1, m_2, \dots, m_1 > 2$, $m_{1+1} = \dots = m_n = 2$ ($0 \leq 1 \leq n$). For the function $\varphi(x_1, \dots, x_n)$ to be an (m_1, m_2, \dots, m_n) -type of dependence of trials, it is necessary and sufficient that φ has the form $x_1 \dots x_1 \gamma_{n-1}(x_{1+1}, \dots, x_n)$, where γ_{n-1} is a certain $(n-1)$ -dimensional typical distribution function.

An analogous result for measures is obtained, which are Markov with respect to an arbitrary regular complex.

There are 3 Soviet-bloc references.

SUBMITTED: August 24, 1960

Card 3/3

VOROB'YEV, N.N. (Leningrad)

Differentiation of the strategies of positional games. Prob.
kib. no. 7:5-20 '62. (MIRA 15:4)
(Games, Theory of)

VOROB'YEV, N.N. (Leningrad)

Coordinated families of measures and their extensions.
Teor. veroiat. i ee prim. 7 no.2:153-169 '62. (MIRA 15:5)
(Topology)
(Games, Theory of)

VOROB'YEV, N.N., red.; SHIROKOVA, S.A., red.; KRYUCHKOVA, V.N.,
tekhn. red.

[Infinite antagonistic games] Beskonechnye antagonisticheskie igry. Moskva, Fizmatgiz, 1963. 503 p. (MIRA 16:12)
(Games, Theory of)

VOROB'YEV, N.N. (Leningrad)

Topologization of a set of interior coordinated families of measures. Teor. veroiat. i ee prim. 8 no.4:444-451 '63.

Markovian measures and Markovian extensions. Ibid.:451-462
(MIRA 17:1)

VOROB'YEV, N.N.

Extremum algebra of matrices. Dokl. AN SSSR 152 no.1:24-27 3
'63. (MIRA 16:9)

1. Leningradskoye otdeleniye Matematicheskogo instituta im.
V.A.Steklova AN SSSR. Predstavleno akademikom V.I.Smirnovym.
(Matrices)

VOROB'YEV, Nikolay Nikolayevich; KISUN'KO, V.G., red.

[Fibonacci's numbers] Chisla Fibonachchi..Izd.2., dop. Mo-
skva, Nauka, 1964. 69 p. (Populiarnye lektsii po ma-
tematike, no.6) (MIRA 17:11)

ACCESSION NR: AP4016033

8/0052/64/009/001/0053/0071

AUTHOR: Vorob'yev, N. N. (Leningrad)

TITLE: Families of random passages

SOURCE: Teoriya veroyatnostey i yeye primeneniya, v. 9, no. 1, 1964, 53-71

TOPIC TAGS: random passage, game theory, strategy, probability, measure, coalition, projection, conditional measure, conditional distribution, passage probability, interior measure, generalized measurable space

ABSTRACT: Let $S_A = \prod_{a \in A} S_a$ where M is a finite set to each element, a , of which is associated a set S_a . The elements of M are called players, and the elements of S_a are called strategies of the coalition A , while the elements of S_a are called the strategies of player a . The probabilities with which A chooses its pure strategies are given by μ_A . Player a 's strategies are determined by the projection μ_a of μ_A on S_a . Given that player a chooses S_a , the remaining members of A are governed by the conditional measure $\mu_A(\cdot | S_a)$, which must be defined even if

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ACCESSION NR: AP4016033

$\mu_A(S_A) = 0$. This conditional measure, not being determined by μ_A , must be prescribed additionally. It must, however, be insured that such prescriptions are not contradictory. Conditions are given to verify this latter. Orig. art. has: 39 formulas.

ASSOCIATION: none

SUBMITTED: 30Oct62

ENCL: 00

SUB CODE: MA

NO REF SOV: 004

OTHER: 000

Card 2/2

VORON'YEV, N.N.

A constructive propositional calculus with strong negation.
Trudy mat. inst. 72:19.-227 '64. (MIRA 18:9)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860820015-0

SOURCE: AN SSSR, Izvestiya, Tekhnicheskaya kibernetika, no. 1, 1981, pp. 1-10.

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860820015-0"

VOROB'YEV, N.P.

Vertical-speed formula of the pilot-balloon. Meteor. 1
gidrol. no.12:33-36 D '63. (MIRA 17:3)

1. Minskiy politekhnicheskii institut.

ACC NR: AP7007607

SOURCE CODE: UR/0114/66/000/008/0040/0042

VOROB'YEV, N. P., PUPKO, T. Yo.

"Hydraulic Turbine Laboratory Of Khar'kov Turbo-Generator Plant Imeni S. N. Kirov"

Energomashinostroyeniye, No 8, 66, p 40-42

TOPIC TAGS: turbine, electric generator, scientific organization, laboratory equipment

Abstract: A description of the facilities and equipment available at the Hydraulic Turbine Laboratory of the Khar'kov Turbo-Generator Plant Imeni Kirov.

The laboratory is placed in a separate building whose main hall contains three power and two cavitation test stands, plus a stand for testing hydraulic seals.

A smaller hall contains a control stand, the mechanical shops, a switching station, strength testing apparatus and a number of other shops. Cross sectional diagrams are presented of the following test stands: cavitation -

power stand 250 - for testing of models with turbine wheel diameters up to 250 millimeters. A closed cycle test stand with water recirculated by cen-

trifugal pump; open power testing stand 460 - for testing of turbines up to 460 millimeters diameter with four meter head and water flow rate 1.5 M³/ sec.

Open supply and receiving water reservoirs are used; horizontal machine testing stand - designed for power and cavitation tests of models of horizontal and

vertical turbines under conditions near natural conditions as far as cavitation coefficient is concerned at pressure heads up to 4 meters of water and water

flow rates of 3600 liters per second; cavitation test stands 100 and 150 -

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UDC: 061.6:621.224XTG

21.7.15.60

ACC NR: A17007607

designed for determining cavitation characteristics and flow studies around models of turbine blade wheels up to 460 millimeters in diameter for vertical turbines at near natural pressures. The dynamic and strength testing stands are designed for investigation of static and dynamic stresses, frequencies and oscillation forms of parts of hydraulic turbines. The control stand is designed for testing hydraulic turbine control systems and elements of these systems, as well as for testing servo motors and turbine mountings.

Orig. art. has: 4 figures. [JPRS: 38,330]

Card 2/2

VOROB'YEV, N.S. (Ivanovo)

Graphic solution of geometry problems. Mat. v shkole no.2:
44-49 Mr-Apr '59. (MIRA 12:6)
(Geometry--Graphic methods)

VOROB'EV, N.S., (Ivanovo).

Solving stereometrical problems using the method of rectangular projections. Met v shkole no.3:33-42 Ky-Je '53.
(MLRA 6:6)
(Mensuration)

VOROB'YEV, N.V., doktor tekhn. nauk; GLUSHKOV, G.A.

Toothed chains and their wear resistance. Mashinostroitel'
no. 7:34-35 J1 '64. (MIRA 17:8)

VCROB'YEV, N.V., doktor tekhn.nauk; GLUSHKOV, G.A.

Profiles of sprocket teeth for driving silent chains.
Mashinostroitel' no.11:27-28 '65.

(MIRA 18:11)

VOROB'YEV, Nikolay Vasil'yevich, doktor tekhn. nauk, prof.; BARANOV,
G.G., doktor tekhn. nauk, prof., retsenzent; BYSTRITSKAYA,
V.V., red. izd-va; CHERNOVA, Z.I., tekhn. red.

[Chain transmissions] TSepnye peredachi. Izd.3., ispr. 1
dop. Moskva, Mashin, 1962. 238 p. (MIRA 15:4)
(Link-belted)

VOROB'YEV, N.V.

Chromatographic method of quantitative analysis of a mixture of
higher fatty acids with the use of the MF-4 microphotometer. Masl.-
zhir.prom. 29 no.11:22-26 N '63. (MIRA 16:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut maslichnykh i
efiromaslichnykh kul'tur.

VOROB'YEV, M.V., professor, doktor tekhnicheskikh nauk; KIFER, L.G.,
zasluzhennyy deyatel' nauki i tekhniki; professor, doktor tekhnicheskikh nauk, redaktor; VIDONOV, S.S., redaktor; MODUL', B.I.,
tekhnicheskiiy redaktor.

[Chain drive] TSepnye peredachi. Pod red. L.G.Kifera. Moskva, Gos.
nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1946. 143 p.
(Power transmission) (MLRA 8:1)

VOROB'EV, N. V.

TSepnye peredachi. Izd. 2. Moskva, Mashgiz, 1951. 188 p.

Chain drives.

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

Vorob'yev, N V

Kettentriebe. 2. verb. und ergänzte Aufl. des sowjetischen Originals. Berlin, Technik, 1953.

226 p. illus., diagrs., tables.

Translation from the Russian, "Tsepye Peredachi," Izd. 2, Moscow, 1951.

Added T.-P in Russian.

N/5
71.988
.791
1953

KRUTIKOV, I.P., doktor tekhn. nauk, prof.; ~~VOROB'YEV, N.V.,~~
doktor tekhn. nauk, prof., retsenzent; ~~BULATOV, S.I.,~~
inzh., red.

[Excavators] Ekskavatory. Moskva, Mashinostroenie, 1964.
391 p. (MIRA 17:10)

VOROB'YEV, N.V., zasluzhennyy deyatel' nauki i tekhniki Udmurtskoy ASSR.;
IVASHKOV, I.I., kand.tekhn.nauk; FILIMONOV, B.N., inzh.

Improving the quality of chain transmissions. Vest.mashinostr.
43 no.5:13-17 My '63. (MIRA 16:5)
(Chains)

VOROB'YEV, N.V., doktor tekhn. nauk; IVASHKOV, I.I., kand. tekhn. nauk

Improve the technical level of manufacture and use of chains
in the national economy. Mashinostroitel' no.5:38-39 My '63.
(MIRA 16:7)

(Chains)

(Machinery industry--Management)

VOROB'YEV, Nikolay Yakovlevich; IVANOV, N.I., red.; ZUBRILINA, Z.P.,
tekh.red.

[Magician of the fields; a study] Kudesnik polsei; ocherk.
Moskva, Gos.izd-vo sel'khoz.lit-ry, 1959. 38 p. (MIRA 13:4)
(Mal'tsev, Terentii Samonovich)

COUNTRY : USSR
CATEGORY : Weeds and Their Control
ABST. JOUR. : RZBiol., No. 12, 1958, No. 53938
AUTHOR : Yukhno, G.Ya.; Vorob'yev, N.Ye.
INST. : Not given
TITLE : Chemical Weeding

ORIG. PUB. : Agrobiologiya, 1957, No. 2, 132-133

ABSTRACT : At Izmail'skiy Experimental Field (Odesskaya Oblast) and under industrial production conditions in the kolkhozes and sovkhoses of Artsizskiy Rayon chemical weeding with 2,4-D herbicide sharply decreased the weed choking in the fields and boosted the grain crop yields. A water sol. of the herbicide was sprayed in dosages of 0.6, 0.8 and 1.2 kg/ha of active matter. --T.L. Rivkind

CARD: 1/1

VOROB'YEV, N. Ye., Cand Med Sci -- (diss) "Vegetative components of a conditioned-reflex motor act in patients with brain tumor." Smolensk, 1960. 23 pp; (Smolensk State Medical Inst); 270 copies; price not given; (KL, 17-60, 168)

VOROB'YEV, N.Ye. [Voroblov, M.IE.]

Some biological properties of biennial weeds in the steppe of the
Danube Valley. Ukr. bot. zhur. 17 no.5,43-49 '60. (MIRA 13:12)

1. Izmaylovskaya ispytatel'naya stantsiya, selo Mirnopol'ye
Odesskoy oblasti.
(Ukraine, Western--Weeds) (Biennials (Plants))

BLAZHEVSKIY, Ye.V., dvazhdy Geroy Sotsialisticheskogo Truda; VOVCHENKO, I.V., kand. sel'khoz. nauk, ~~zasl. agronom Ukr.SSR; VOBOR'YEV, N.Ye., st. nauchn. sotr.; GESHELE, E.E., doktor biol. nauk, prof.; ZUBRITSKIY, A.A., agronom; KISEL'GOF, Z.S., inzh., zasl. mekhanizator sel'skogo khoz. Ukr.SSR; KLYUCHKO, P.F., kand. sel'khoz. nauk; KORCHAGIN, A.Ye.; LEEDEV, Ye.M., st. nauchn. sotr.; NASYPAYKO, V.M., kand. sel'khoz.nauk; PIKUS, G.P., kand. sel'khoz.nauk; REKACH, V.N., doktor sel'khoz. nauk, prof.; SPIVAK, I.I., zootekhnik; TEMCHENKO, L.V., kand. sel'khoz. nauk; FEDULAYEV, A.A., agronom; YAKOVENKO, V.A., kand. tekhn.nauk; KITAYEV, I.A., kand. sel'khoz. nauk, red.; MUSIYKO, A.S., akademik, red.; VINNITSKIY, S.P., red.; MOLCHANOVA, T.N., tekhn. red.~~

[For high corn yields] Za bol'shuyu kukuruzu. [By] E.V. Blazhevskii i dr. Odessa, Odeskoe knizhnoe izd-vo, 1962. 173 p. (MIRA 16:7)

1. Zven'yevoy kolkhoza im. Gor'kogo Kotovskogo rayona na Odesshchine (for Blazhevskiy). 2. Glavnyy agronom sovkhoza "Bessarabskiy" (for Korchagin). 3. Ukrainskaya akademiya sel'skokhozyaystvennykh nauk (for Musiyko).
(Ukraine--Corn (Maize))

VOROB'YEV, Nikolay Yakovlevich; ZHURAVSKIY, Vasilii Aleksandrovich;
IVANOV, N.I., red.; TRUKHINA, O.N., tekhn. red.

[Creator of golden ears; a sketch] Tvorets zolotyykh kolcs'yev;
ocherk. Moskva, Izd-vo sel'khoz.lit-ry, zhurnalov i plakatov,
1961. 47 p. (MIRA 15:1)

(Grain)

VOROB'YEV, N.Ye.

YUKHNO, G.Ya., kandidat sel'skokhozyaystvennykh nauk; VOROB'YEV, N.Ye.;
FILIP'YEV, I.D.

Chemical weed control in fields. Agrobiologiya no.2:132-133 Mr-Ap
'57. (MLRA 10:5)

1.Izmail'skoye opytnoye pole.
(Odessa Province--Weeds)
(Herbicides)

VOROB'YEV, N.Ye., kand. med. nauk

Rare type of a knife wound of the head. Trudy SMI 17:18-20 '63.
(MIRA 18:1)

1. Iz kafedry fakul'tetskoy khirurgii (zav. kafedroy - prof. S.M. Nekrasov) Smolenskogo gosudarstvennogo meditsinskogo instituta.

VOROB'YEV, N.Ye.; DZYUBA, N.P.

Polarographic method for the quantitative determination of cardiac glycosides. Farmatsev.zhur. 19 no.1:18-22 '64.

(MIRA 18:5)

1. Khar'kovskiy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut.

MARGOLIN, G.S., prof.; VOROB'YEV, N.Ye., kand. med. nauk

Surgical treatment of actinomycomas of the brain. Trudy SMI 17:
10-17 '63. (MIRA 18:1)

1. Iz kafedry nervnykh bolezney (zav. - prof. G.S. Margolin) i
kafedry fakul'tetskoy khirurgii (zav. - doktor med. nauk P.P.
Aleksyev) Smolenskogo gosudarstvennogo meditsinskogo instituta.

LEBEDEV, Yefim Mikhaylovich [Lebediev, IU.M.], nauchnyy sotr.;
VOROB'YEV, Nikolay Yevgen'yevich [Vorobiov, M.], nauchnyy
~~sotr.~~; VINNITSKIY, S. [Vinnyts'kyi, S.], red.; MOLCHANOVA, T.,
tekhn. red.

[Over-all mechanization of crop management] Kompleksna mekha-
nizatsiia dohliadu za posivamy. Odesa, Odes'ke knyzhkove vyd-
vo, 1959. 30 p. (MIRA 15:7)

1. Izmayl'skaya opytnaya stantsiya Vsesoyuznogo nauchno- issle-
dovatel'skogo instituta kukuruzy (for Lebedev, Vorob'yev).
(Ukraine--Corn (Maize)) (Agricultural machinery)

DOLGOPOLOV, N.N.; SHCHERBAKOV, D.I., akademik, otvetstvennyy redaktor;
BELOV, N.V., akademik, redaktor; VOROB'YEV, O.A., redaktor; CHUKHROV,
P.V., redaktor; KUN, N.P., redaktor izdatel'stva; ASTAF'YEVA, G.A.,
tekhnicheskiiy redaktor

[Problems in geochemistry and mineralogy] Voprosy geokhimii i
mineralogii. Moskva, 1956. 174 p. (MLRA 9:7)

1. Chlen-korrespondent AN SSSR (for Chukhrov). 2. Akademiya nauk
SSSR. Otdeleniye geologo-geograficheskikh nauk.
(Geochemistry) (Mineralogy)

VOROBYEV, O.M., inzh.

Reconditioning the scrapers of "cleaning machines" by hard facing.
Stroi. trupobrov. 7 no.6:18 Je '52 (MIRA 15:7)

/Test po stroitel'stvu Gazoprivodov Glavmertprstroystroya Ministerstva
stroitel'stva predpriyatiy nertyanoy promyshlennosti SSSR.
(Hard facing) (Scrapers)

10(7)

AUTHOR: Vorob'yev, O. S.

SOV/20-122-5-8/56

TITLE: An Approximated Analytical Representation of Plane Supersonic Flows of a Gas (Priblizhennoye analiticheskoye predstavleniye ploskikh sverkhzvukovykh techeniy gaza)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 5, pp 778 - 781 (USSR)

ABSTRACT: The equations of motion for the supersonic flows of a compressed gas have the shape

$$\frac{\partial^2 \psi}{\partial \lambda \partial \mu} = F(t) \left(\frac{\partial \psi}{\partial \lambda} + \frac{\partial \psi}{\partial \mu} \right), \quad \frac{\partial^2 \psi}{\partial \lambda^2} = -F(t) \left(\frac{\partial \psi}{\partial \lambda} + \frac{\partial \psi}{\partial \mu} \right).$$

Here ψ denotes the flow function, φ - the velocity potential; λ and μ - characteristic variables which are connected with the angle of inclination θ of velocity and with the variable t by the relations $t - \theta = 2\lambda$, $t + \theta = 2\mu$. A system of equations for the connection between the variable t and velocity is given. Next,

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Supersonic Flows of a Gas

SOV/20-122-5-8/56

a solution ansatz is written down for the initially given system of equations. By suitable selection of a random constant the course of the curve corresponding to the solution can be selected in such a manner that it has one or more points of intersection with the exact curve (either one point of intersection and one point of contact at $M \rightarrow \infty$ or two points of intersection or one point of contact at $M = 4.57$, or no point in common at all). Next, the system of equations for the special case of an adiabatic flow is integrated, and the solution thus obtained is explicitly written down. By using the Bernoulli (Bernoulli)-equation an expression for pressure is easily obtained. By suitable selection of the random constant a contact of the fourth order of the approximated curve with the curve of the adiabatic variation of pressure is obtained. Also the following more general conclusion may be drawn: An extensive class of the initially assumed functions $F(t)$ with a random constant permits the determination

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An Approximated Analytical Representation of Plane
Supersonic Flows of a Gas

SOV/20-122-5-8/56

of the function $p(q)$, which has a contact of the fourth order with the adiabatic function $p(q)$. p denotes pressure and q the ratio between gas density and the density in the stagnation point (plotnost' tormozheniya). The general solution of the system of equations initially written down depends essentially on the form of the function $F(t)$. A diagram shows the relative deviations of the approximated function f from the adiabatic function for various values of the random constant. The approximation gives a very accurate result for $M > 2.5$. Next, calculations for the following boundary value problems are outlined: Goursat (Gursa)-problem, Cauchy (Koshi)-problem, problem with assumed conditions on the characteristic and on the free surface, problem with assumed conditions on the characteristic and on a rectilinear wall. There are 2 figures and 1 Soviet references.

Card 3/4

An Approximated Analytical Representation of Plane
Supersonic Flows of a Gas

SOV/20-122-5-8/56

PRESENTED: June 3, 1958, by L.I.Sedov, Academician

SUBMITTED: May 16, 1958

Card 4/4

L 20747-66 EWT(m)
ACC NR: AP6007766

SOURCE CODE: UR/0205/66/006/001/0109/0111

24
23

AUTHOR: Strelkov, R. B.; Vorob'yev, O. Ya.

ORG: Institute of Experimental Pathology and Therapy AMN SSSR, Sukhimi (Institut eksperimental'noy patologii i terapii AMN SSSR)

TITLE: The concentration of oxygen in tissues during barbamy^l anesthesia

SOURCE: Radiobiologiya, v. 6, no. 1, 1966, 109-111

TOPIC TAGS: irradiation resistance, gamma irradiation, irradiation damage, sodium amy^l

ABSTRACT: The effect of barbamy^l (sodium amy^l) on the O₂ concentration in the spleen, liver, and brain of white rats was investigated by the polarographic method. The experiments were performed on 45 white male rats weighing between 185 and 240 g. A 0.2-mm platinum electrode (the cathode) was inserted directly into the tissues of the organ under investigation, and a silver chloride electrode (the anode) was fastened to the tail of the animal. A 75-mg/kg dose of barbamy^l was injected intraperitoneally. When, at the end of the experiment, the animals were killed, the oxygen content in the spleen dropped sharply. Data on O₂ changes in the spleen of

UDC: 628.58

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L 20747-66

ACC NR: AP6007766

white rats receiving protective dosages of barbamyI and serotonin are presented in tabular form. BarbamyI brought about an increase in oxygen content in the spleen while serotonin significantly reduced it. BarbamyI had virtually no impact on oxygen content in liver and brain tissue. Data on the anti-irradiation effect of barbamyI (75 mg/kg) are presented in a table. The data show that 13.3% (4 out of 30) of the experimental animals survived 30 days following exposure to 850 rad of gamma irradiation. It is concluded that barbamyI's protective action is independent of the "oxygen effect" in spleen tissue. It is suggested that the protective effect is a result of barbamyI's effect on the central nervous system. Orig. art. [14] has: 3 tables.

SUB CODE: 06/
ATD PRESS: 4224

SUBM DATE: 26Jun64/

ORIG REF: 007/

OTH REF: 011

Card 2/2

L 17297-66 EWT(m)

ACC NR: AP600049 (A) SOURCE CODE: UR/0219/66/062/008/0049/0051

AUTHOR: Strelkov, R. B. ; Vorob'yev, O. Ya.

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B

ORG: Institute of Experimental Pathology and Therapy, AMN SSSR, Sukhumi
(Institut eksperimental'noy patalogii i terapii AMN SSSR)

TITLE: Investigation of the oxygen condition in the brain tissue of albino rats
after injection of radioprotective agents

SOURCE: Byulleten' eksperimenta'noy biologii i meditsiny, v. 62, no. 8,
1966, 49-51

TOPIC TAGS: polarography, brain tissue, radioprotective agent, serotonin,
cystamine, oxygen

ABSTRACT: Experiments using polarography have been carried out for studying
the effect of sulfur-containing radioprotective agents, cystamine (100 mg/kg)
and indolylalkylamine serotonin (20 mg/kg), on the oxygen tension in the function-
ing brain tissue of albino rats with implanted platinum electrodes

Card 1/2

UDC: 615.777.8-031:611.81-092:612.82-612.26

L 47297-66

ACC NR: AP6028949

reduced pO₂ in the brain tissue by 7.3%, and serotonin increased it by 15.2%. It is presumed that serotonin produces a specific effect on the metabolic processes in the brain tissue, which may be of some importance in the radio-protective mechanism of this agent. A difference has been noted in the protective mechanism of agents containing sulfohydrys and those containing indolyl-alkylamines. The paper was presented by V. V. Parin, Active Member of AMN SSSR, on 7 October 1964. Orig. art. has: 1 table. [Based on authors' abstract] [NT]

SUB CODE: 06/ SUBM DATE: 07Oct64/ ORIG REF: 010/ OTH REF: 008/

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Dinucleoside phospho-(P_m→N)-amino acid. Dokl. AN SSSR 166
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ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova

APPROVED FOR RELEASE: 03/14/2001

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